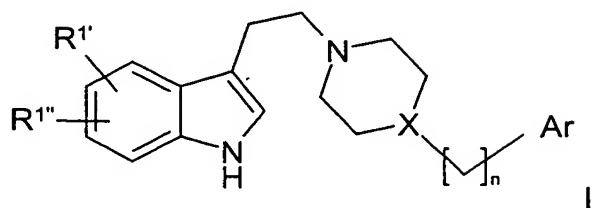


Patent Claims

1. Compounds of the formula I



in which

$R^{1'}$, $R^{1''}$ each, independently of one another, denote H, CN, Hal, A, OA, OH, COR^2 , CH_2R^2 ,

R^2 denotes OH, OA, NH_2 , NHA or NA_2 ,

R^3 denotes H or A,

X denotes N or CH

A denotes unbranched or branched alkyl having 1-10 C atoms, in which one or two CH_2 groups may be replaced by O or S atoms and/or by $-CH=CH-$ groups and/or also 1-7 H atoms may be replaced by F,

Ar denotes unsaturated, partially or fully saturated, mono- or polycyclic homo- or heterocyclic system containing the heteroatoms O, N, S, which is unsubstituted or mono- or polysubstituted by Hal, A, OR^3 , $N(R^3)_2$, NO_2 , CN, $COOR^3$, $CON(R^3)_2$, NR^3COA , $NR^3CON(R^3)_2$, NR^3SO_2A , COR^3 , $SO_2N(R^3)_2$, SO_2A ,

Hal denotes F, Cl, Br or I and

n denotes 0, 1, 2, 3, 4

and pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios.

2. Compounds of the sub-formula Ia of the formula I according to Claim 1,

in which

$R^{1'}$ denotes cyano,

$R^{1''}$ denotes hydrogen,

X denotes N and

n denotes 0, 1 or 2

and solvates, stereoisomers and pharmaceutically usable derivatives thereof, including mixtures thereof in all ratios.

3. Compounds of the sub-formula Ib of the formula I according to Claim 1, in which

R^{1'} denotes cyano,

R^{1''} denotes hydrogen,

X denotes N

n denotes 0, 1 or 2 and

Ar denotes phenyl which is unsubstituted or substituted in accordance with Claim 1

and solvates, stereoisomers and pharmaceutically usable derivatives thereof, including mixtures thereof in all ratios.

4. Compounds of the sub-formula Ic of the formula I according to Claim 1, in which

R^{1'} denotes cyano,

R^{1''} denotes hydrogen,

X denotes N

n denotes 0, 1 or 2 and

Ar denotes naphthyl which is unsubstituted or substituted as indicated in Claim 1

and solvates, stereoisomers and pharmaceutically usable derivatives thereof, including mixtures thereof in all ratios.

5. Compounds of the sub-formula Id of the formula I according to Claim 1, in which

R^{1'} denotes cyano,

R^{1''} denotes hydrogen,

X denotes N

n denotes 0, 1 or 2 and
Ar denotes indolyl, benzofuryl or benzodioxolyl, each of which is unsubstituted or substituted as indicated in Claim 1
and solvates, stereoisomers and pharmaceutically usable derivatives thereof, including mixtures thereof in all ratios.

6. Compounds of the sub-formula Ie of the formula I according to Claim 1, in which

R^{1'} denotes cyano,

R^{1''} denotes hydrogen,

X denotes N

n denotes 0, 1 or 2 and

Ar denotes benzodioxinyl which is unsubstituted or substituted as indicated in Claim 1

and solvates, stereoisomers and pharmaceutically usable derivatives thereof, including mixtures thereof in all ratios.

7. Compounds of the sub-formula If of the formula I according to Claim 1, in which

R^{1'} denotes cyano,

R^{1''} denotes hydrogen,

X denotes N

n denotes 0, 1 or 2 and

Ar denotes benzothiadiazolyl which is unsubstituted or substituted as indicated in Claim 1

and solvates, stereoisomers and pharmaceutically usable derivatives thereof, including mixtures thereof in all ratios.

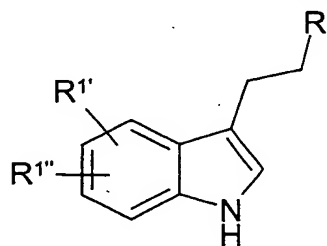
8. Compounds of the formula I according to Claim 1 selected from a group consisting of

(a) 3-{2-[4-(2,3-dihydrobenzo-1,4-dioxin-5-yl)piperazin-1-yl]ethyl}-1H-indole-5-carbonitrile,

(b) 3-[2-(4-benzo-1,2,5-thiadiazol-4-ylpiperazin-1-yl)ethyl]-1H-indole-5-carbonitrile.

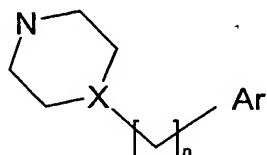
and solvates, stereoisomers and pharmaceutically usable derivatives thereof, including mixtures thereof in all ratios.

9. Process for the preparation of compounds of the formula I according to one or more of Claims 1-8 and pharmaceutically usable derivatives, solvates and stereoisomers thereof, characterised in that a formylindole starting material of the formula III



III

in which R is a leaving group which is suitable for nucleophilic substitutions, and R^{1'} and R^{1''} have a meaning indicated in Claim 1, is reacted with a cycloamine compound of the formula II



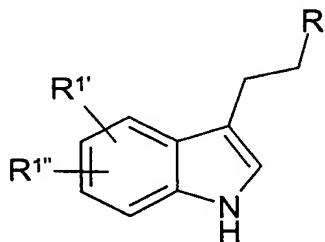
II

in which X, Ar, and n have the meaning indicated in Claim.

10. Compounds of the formula I and pharmaceutically usable derivatives, solvates and stereoisomers thereof according to one or more of Claims 1 to 8 as serotonin reuptake inhibitors and effectors of the serotonergic receptors 5-HT_{1A} and 5-HT_{2A}.
11. Compounds of the formula I and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios according to one or more of Claims 1 to 8 as medicaments.

12. Medicaments comprising at least one compound of the formula I and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios according to one or more of Claims 1 to 8, and optionally excipients and/or adjuvants.
13. Medicaments comprising at least one compound of the formula I and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios according to one or more of Claims 1 to 8, and at least one further medicament active ingredient.
14. Use of compounds according to one or more of Claims 1 to 8 and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios, for the preparation of a medicament for the prophylaxis or treatment of diseases in which inhibition of serotonin reuptake and/or binding of one or more active ingredients present in the said medicament to the serotonergic receptors 5-HT_{1A} and/or 5-HT_{2A} results in an improvement in the clinical picture.
15. Use of compounds according to one or more of Claims 1 to 8 and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios, for the preparation of a medicament for the prophylaxis or treatment of depression, dyskinesia, Parkinson's disease, dementia, strokes, schizophrenia, Alzheimer's disease, Lewy bodies dementia, Huntington's disease, Tourette's syndrome, anxiety, learning and memory impairment, sleeping disorders, pain and neurodegenerative diseases.
16. Pharmaceutical composition, characterised by a content of at least one compound of the formula I and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios according to one or more of Claims 1 to 8.

17. Process for the preparation of pharmaceutical compositions according to Claim 16, characterised in that at least one compound of the formula I and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios according to one or more of Claims 1 to 8 is brought into a suitable dosage form together with at least one solid, liquid or semi-liquid excipient or adjuvant.
18. Set (kit) consisting of separate packs of
- (a) an effective amount of a compound of the formula I according to one or more of Claims 1 to 8 and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios, and
 - (b) an effective amount of a further medicament active ingredient.
19. Use of compounds of the formula I and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios according to one or more of Claims 1 to 8, for the preparation of a medicament for the prophylaxis or treatment of depression, dyskinesia, Parkinson's disease, dementia, strokes, schizophrenia, Alzheimer's disease, Lewy bodies dementia, Huntington's disease, Tourette's syndrome, anxiety, learning and memory impairment, pain, sleeping disorders and neurodegenerative diseases, in combination with at least one further medicament active ingredient.
20. Intermediate compounds of the formula III



III,

in which R is a leaving group which is suitable for nucleophilic substitutions, and R^{1'}, R^{1''} have a meaning indicated in Claim 1, and salts thereof.

21. Intermediate compounds of the formula III according to Claim 20, consisting of 3-(2-chloroeth-1-yl)-1H-indole-5-carbonitrile and salts thereof.